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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/519,429

10/14/2005

Michael John Damzen

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EXAMINER

HUGHES, DEANDRA M

ART UNIT

PAPER NUMBER

3663

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/519,429

Applicant(s)

DAMZEN, MICHAEL JOHN

Examiner

Deandra M. Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-12 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 11/7/06 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 13 is objected to because of a minor typographical error. In line 9, the phrase "for receiving an amplifying" is repeated unnecessarily. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-7, 9, 11-12, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Byren (US 6,014,391 published Jan. 11, 2000).

With regard to claim 1, Byren discloses an optical amplifying device (fig. 1) comprising:

- a slab of material (#4) which is pumped (pumps are #9) via a side face thereof (pump radiation from #9 enters side face of #4);
- with pump radiation of a frequency which is absorbed by the material to provide a gain region (#4 is active material) adjacent said side face (pumps inherently are of a frequency which is absorbed by active material)

to provide a gain region; otherwise, they would not be 'pumps'; further, Byren discloses this; col. 3, lines 55-60);

- the device defining a path through the gain region for optical radiation to be amplified said path (the pump path is the zig-zagging line in fig. 1) comprising:
 - o at least two spatially-different grazing-incidence reflections in said gain region (in fig. 1, the zig-zagging line has progressively shorter grazing incidences; note that in optics, the incident angle is measured from the normal).

With regard to claims 2-3, the closely spaced lines in figure 1 have grazing incidences (again, note that this is measured from the Normal) of less than 10 degrees.

With regard to claims 4-5, fig. 3 discloses more than one gain area (#16) in different spatial areas of the slab #4.

With regard to claim 6, the two spatial areas (fig. 4, #16) are provided with two spatially different pumps (each incidence of pump array #9).

With regard to claim 7, the feedback occurs via the pump cladding (#7) enabling the device to lase (the device is a laser).

With regard to claim 9, the path comprises one surface of the slab material, i.e. adjacent the cladding #4.

With regard to claim 11, uniform pump distribution is disclosed (col. 6, lines 1-2).

With regard to claim 14, the Examiner considers the claim to be a functional limitation, i.e. intended use. While features of an apparatus may be recited either

structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone. Since the structural limitations have been met by the prior art, the Examiner has reason to believe that the function limitation can be performed by the prior art structure. See MPEP 2114. NOTE: the Examiner suggests language such as "configured to" or "configured for" to give patentable weight to the method limitations in apparatus claims.

Claim 12 is merely the method of normal operations of the apparatus as claimed.

Claim Rejections - 35 USC § 103

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byren in view of Carrig (US 6,658,036 filed Jun. 27, 2002).

Byren does not specifically disclose that the path comprise at least one mirror. However, mirrors are well-known means for laser feedback. Further, it taught by Carrig (e.g. fig. 1, #110). It would have been obvious to one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a mirror in the path definition for the advantage of inducing lasing.

Allowable Subject Matter

7. Claim 13 would be in condition for allowance if the claim objection outlined above were obviated.

8. The following is a statement of reasons for the indication of allowable subject matter. The prior art does not disclose or make obvious 1st and 2nd optical amplifying devices sharing a common slab of material in conjunction with the other features of the claim.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M. Hughes whose telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 3663

Status information for unpublished applications is available through Private PAIR only.

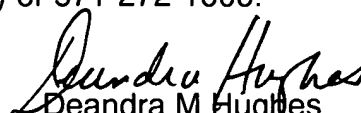
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Deandra M Hughes
Primary Examiner
Art Unit 3663